Lecture 3. The Early Ontogeny of Co-operative Communication

Infants' co-operative gestures have full adult structure from their outset.

⇒ Some think infants' early pointing not "real thing"
⇒ Here: yes, both in terms of structure and motivation ⇒ BEFORE LANGUAGE

3.1. Early Pointing at 12 Months

• Infants social initially only dyadically ⇒ 9-month revolution

• Joint Attentional Frame
  o Comp: Behne et al. (2005a) object choice - 12-14 mos.
  o Comp: Liebal et al. (in prep) on shifting JAFs - 18 mos.
    ¬ control cond: frame must be shared!
  o Production: Table 2a  [12-13 mos.]
    ¬ point to table vs. chair for same function

• Referential Intention
  o Moore's challenge: infants point when A already looking
  o Liszkowski et al. (2004) - 12 mos. ⇒ need target
  o Liszkowski et al. (submitted a) - 12 mos. - misunderstand referent
    ¬ need specific target
  o Liszkowski et al. (submitted b) - 12 mos. - absent referents
    ¬ see also Table 2a
  o Golinkoff: negotiation of meaning at 10-18 mos.

• Social Intention (Motive)
  o Expressives:  *I want: we know: I want: we feel X*
- 12 mos: Liszkowski et al (2004): sharing attention & attitudes
- 12 mos: Liszkowski et al (sub a) - wrong attitude
  o Informatives: *I want: we know: I want: you know X*
    - 12-14 mos: Behne et al. (2005a) - comprehend informative
    - 12 mos: Liszkowski et al (2006) produce informative
      - Liszkowski et al (in prep) follow up on 'knowledge'
  o Requestives: *I want: we know: I want: you do X*
    - 11-12 mos: Camaioni (co-operative or individual?)
    - 24 mos: Schwe-Behne - co-operative imperative
  o No pointing for greeting, thanking, apologizing
    - referent = my feeling
    - w/ language: all early, 18 mos. (comprehension?)

- Communicative Intention [*really?*]
  o Not hidden authorship, but something more primordial
  o Adults want infants to do things; infants know this
    - learn to direct things to others: eye contact, etc.
    - Albrecht et al: 12 mo. olds know that others must see gesture
  o Behne et al. (2005a) control condition at 14 mos. - see as not communicative
    - in experimental condition make relevance inference
  o Liszk (sub b): 12-mo-olds point still after sharing w/ adult (to stress comm?)
  o Shwe-Behne: 2 yr olds correct misund. even when get what want
  o Moll & T - 14-mos. know what we experienced together

- Characterizing gestures
  o Early ritualizations: reject, put--me-down, pick-me-up (like apes, 1-way)
  o Diary examples, Table 2b
    - taught baby signs = like words; iconic? invented?
spontaneous examples in Table 2b

- Understand such gestures for objs (not replicas) by 18 mos (T et al, '99)
- for 'actions I should do' by 30 mos (Haimerl in prep) (videos)

3.2. The Early Ontogeny of Pointing

- Infants have pointing hand-shape at 3 to 6 months (Hannan, 1987)
  - Infants solicit adult help (requestive) at 3 to 6 months
  - Infants share emotions (expressive) at 3 to 6 months
  - Why no communicative pointing?
- Answer: don't understand or share intentions until 9-12 months
  - Und goals & intentions: Gergely et al. (1995); Behne et al. (2005b): 9 mos.
    - Gergely et al. ('02); Schweir et al. (in press) - rational choice: 12- mos.
    - Moll et al. (in press) - rational choice: 14 mos.
  - Und. what others 'know': Onishi & Baill, 2005; T & Haberl , 2003: 12 mos.
    - Reciprocal tendency & expectation to help: ¿convention?¿norm?
- THIS ANSWER PROVIDES EVIDENCE THAT EARLY POINTING BASED ON MENTAL STATES AND CO-OPERATIVE MOTIVES & JUSTIFYS PRIMITIVES
- Sidebar: where does this come from? Two lines:
  (1) understanding intentional action - all apes (to some degree) => 9-12 mos.
    - intentions and attention (rational choice - apes?)
  (2) sharing psychological states (id w/other) - only humans => from birth
    - dyadic protoconversations from early infancy
    ⇒ 9-12 months: merging of two lines: shared goals, intentions, attention
- Learning
o origins of pointing unknown
- ritualization vs imitation: conventionalization?

o origins of char. gestures and baby signs unknown
- creative iconic/metonymic vs. imitation

3.3. Conclusion

- Early gestures have full structure of co-op. comm. [before language]
  o based on mental states: intentions & attention & knowledge (not beliefs)
    → perspective & absent referents
  o based on shared intentionality: joint intentions & attention & knowledge
  o motives of helping & sharing (incl. informing)

- Concealed authorship, deception, sarcasm/irony => later (3-4 years)

- Learning & acquisition of pointing & other gestures?

Some References


children’s awareness of the normative structure of games.


Table 2a: Child Pointing

1. Get me that! (classic imperative/requestive)
2. Look at that! (classic declarative/expressive)
3. Point for self/ambiguous

<table>
<thead>
<tr>
<th>Child</th>
<th>Point Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaron 11; 4</td>
<td>Point + insist</td>
<td>Points to window when wants it open</td>
</tr>
<tr>
<td>Jaron 11; 4</td>
<td>Point + neutral</td>
<td>In buggy turns around and points behind, looks to Mom, then points ahead and looks to Mom</td>
</tr>
<tr>
<td>Jaron 11; 19</td>
<td>Point + neutral</td>
<td>As Dad prepares to leave J points to door</td>
</tr>
<tr>
<td>Jaron 11; 20</td>
<td>Point + insist</td>
<td>Mom pouring water; J points to his glass to tell her to pour him some</td>
</tr>
<tr>
<td>Jaron 12; 2</td>
<td>Point + negative</td>
<td>Mom tells J not to touch her hot teacup; later he points to it and says &quot;No!&quot;, looking to her for confirmation</td>
</tr>
<tr>
<td>Jaron 12; 4</td>
<td>Point + neutral</td>
<td>When Mom asks where J got something from he points out the door and says &quot;Da.&quot;</td>
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<tr>
<td>Jaron 13; 7</td>
<td>Point + excite</td>
<td>J watches as Dad arranges Xmas tree; when Grandpa enters room J points to tree and says &quot;Oh!&quot;</td>
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<tr>
<td>Jaron 13; 25</td>
<td>Point + neutral</td>
<td>J bumps his head or falls, and when Mom comforts he points to offending object or location</td>
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<tr>
<td>Alex 12; 10</td>
<td>Point + excite</td>
<td>Points to sky to sound of airplane out the window (can't see).</td>
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<tr>
<td>Lisa 13; 16</td>
<td>Point + neutral</td>
<td>After eating points to bathroom anticipating going to wash hands</td>
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<tr>
<td>Lisa 13; 20</td>
<td>Point + neutral</td>
<td>Mom is looking for missing fridge magnet, and L points to basket of fruit where it is (hidden under fruit)</td>
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<tr>
<td>Lisa 13; 23</td>
<td>Point + neutral</td>
<td>L pulled heating lamp hallway off wall; Mom reacts; Dad comes in and L points to show what happened</td>
</tr>
<tr>
<td>Lisa 13; 25</td>
<td>Point + neutral</td>
<td>L points to door and says &quot;Papa&quot; when it's about time for him to come home</td>
</tr>
<tr>
<td>Lisa 14; 13</td>
<td>Point + neutral</td>
<td>Mom bringing highchair to table; L points where it goes</td>
</tr>
<tr>
<td>Lisa 14; 17</td>
<td>Point + insist</td>
<td>When wants to get into buggy or highchair points to it</td>
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</tbody>
</table>
### Table 2b: Other Child Gestures

<table>
<thead>
<tr>
<th>Alex</th>
<th>Pre-12</th>
<th>Hands up - pick me up</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Reach - please give</td>
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<tr>
<td></td>
<td></td>
<td>Put Mom's hand to pocket so she will get stuff out</td>
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<td></td>
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<td>Bounce excitedly - do it again</td>
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<tr>
<td></td>
<td></td>
<td>*Wave</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Shake head yes, no</td>
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<tr>
<td></td>
<td></td>
<td>*Baby Sign - eat</td>
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<tr>
<td></td>
<td></td>
<td>*Baby Sign - bugs go away</td>
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<tr>
<td>Alex</td>
<td>12 -13</td>
<td>Starts games (e.g., blink) and waits expectantly for Mom to take her turn</td>
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<td></td>
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<td>Opens and closes fingers for 'wash hands' (not taught)</td>
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<td></td>
<td></td>
<td>Holds up objects and looks to Mom quizzically to ask for name</td>
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<tr>
<td></td>
<td></td>
<td>*Baby Signs: bath, ball, fan, elephant (+ sound), butterfly, bunny, flower, fish, caterpillar, penguin</td>
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<tr>
<td>Alex</td>
<td>14-15</td>
<td>Mimics sound of vacuum cleaner</td>
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<tr>
<td></td>
<td></td>
<td>Palms up - where?</td>
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<td></td>
<td></td>
<td>Brush hands together - all done</td>
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<td>Shake head 'no' as pretends to bite balloon - looking to Mom</td>
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<tr>
<td></td>
<td></td>
<td>Shake head 'no' as pretends to bite balloon - looking to Mom</td>
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<td></td>
<td></td>
<td>Motion to Mom, while his diaper is being changed, to put toy back in can</td>
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<td></td>
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<td>Fingering his chest for strings on Mom's shirt</td>
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